

Remarks

In this Response, Applicants have canceled claim 11, which requires a correction in inventorship, have amended dependent claims 3 and 30, and have added new dependent claims 43 and 44. Accordingly, claims 1-10 and 12-44 are currently pending. The cancellation of claim 11 and correction of inventorship and the rejections in the Office Action having a Date Mailed of February 7, 2006 are addressed below.

Cancellation of Claim 11 and Correction of Inventorship Under 37 C.F.R. § 1.48(b)

The cancellation of claim 11 necessitates a change in inventorship under 37 C.F.R. § 1.48(b). Specifically, Applicants request that Haixiong Ruan be deleted as an inventor as his invention is no longer being claimed in the currently pending claims. Below, Applicants authorize the Commissioner to charge the requisite fee under 37 C.F.R. § 1.17(i) for this inventorship correction to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310 (order no. 063702-0143-us).

The 35 U.S.C. § 102(e) Rejections

Rejection of Claims 1-3, 5-8, 12-15, 18-24, 26-30, 32-35, and 37-39

Claims 1-3, 5-8, 12-15, 18-24, 26-30, 32-35, and 37-39 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. US2003/0073042 (“Cernigliaro”). Applicants respectfully traverse this rejection.

The reference date of Cernigliaro under 35 U.S.C. § 102(e) is its filing date of October 17, 2001. The present application, however, claims priority to U.S. Patent Application No. 09/874,330 (now U.S. Patent No. 6,696,363), which was filed on June 6, 2001. Since this claim of priority antedates the reference date of Cernigliaro, it cannot be used as prior art against the claims that have an effective filing date of June 6, 2001.

Clearly, independent claims 1 and 28 are supported, for example, at col. 18, lines 7-12 and col. 19, lines 1-3 of the ‘363 patent. Dependent claims 2 and 29 are supported, for example, at col. 10, lines 31-42. Dependent claims 12-14 are supported, for example, at col. 16, lines 58-67. Dependent claim 15 is supported, for example, at col. 15, lines 34-37. Dependent claims 18-21 and 37 are supported, for example, at col. 16, lines 55-67. Dependent claim 22 is supported, for example, at col. 22, line 17 – col. 23, line 50. Dependent claims 23-27, 38 and 39 are supported, for example, at col. 19, lines 40-47.

Further, specifically regarding dependent claims 3, 5-8, 30, and 32-35, each of these claims recites that the precursor comprises particles chemically bound to at least one ligand.

To the contrary, the particles in Cernigliaro are separate metallic particles (i.e., particulate) that form a second phase (i.e., a solid phase versus the liquid phase) in the mixture and are not chemically bound to any ligand.

More specifically, Cernigliaro teaches the use of a composition for forming a patterned layer from a filled photopatterning composition. This composition includes a photopatterning composition, typically a polymer, and nanoparticles as fillers that are metal-based. Cernigliaro teaches that these metal-based nanoparticles are selected based upon the structure to be ultimately fabricated (see Paragraph [0068]). This is because the metal-based nanoparticles have desirable functional properties that will be utilized in the structure to be fabricated, such as electrical conductance, electrical resistance, light emission, color saturation, etc. (see Paragraphs [0034], [0043], and [0069] – [0075]). These metal-based nanoparticle fillers are taught as having an average diameter less than 100 nm and preferably between 5-20 nm and may comprise up to 90% of the overall filled photopatterning composition. Therefore, the composition taught by Cernigliaro is a two-phase system having a polymer phase and a solid phase. Accordingly, these metallic particles cannot be construed as part of a precursor that comprises a particle chemically bound to a ligand as recited in the claims. Moreover, even the Office Action states that Cernigliaro does not teach at least one ligand (see page 10, no. 43 of the Office Action). Therefore, Cernigliaro fails to teach or suggest each and every element of these claims.

Rejection of Claims 40-42

Claims 40-42 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,849,465 (“Uchida”). Applicants respectfully traverse this rejection.

Uchida at col. 14, Table 4 teaches the use of titanium (diisopropoxide)bis(acetylacetonate), whereas claims 40-42 recite titanium (diisopropoxide)bis(ethyl acetoacetate). These are different compounds. Accordingly, Uchida does not teach or suggest each and every element of these claims.

Conclusion

Based on the foregoing, Applicants request withdrawal of the above rejections based on Cernigliaro and Uchida.

The 35 U.S.C. § 103(a) Rejections

Claims 3, 4, 9, 10, 16, 31 and 36 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Cernigliaro in view of Uchida. Applicants respectfully traverse this rejection.

In this rejection, Uchida is relied upon as teaching various elements of the rejected claims. However, one of skill in the art would not be motivated to combine Uchida with Cernigliaro nor have an expectation of success in such a combination. As discussed in the previous response, Uchida teaches a photosensitive liquid precursor solution that polymerizes when exposed to ultraviolet radiation (see Uchida, col. 3, lines 16-18). In use, Uchida teaches that this precursor solution may be applied to an integrated circuit substrate as a film and exposed to ultraviolet radiation under a mask (see Uchida, col. 3, lines 34-35). The *exposed* portions will polymerize and *remain on* the substrate during development, and the *unexposed* portions, which are unpolymerized, are *washed away* when the film is developed (see Uchida, col. 3, lines 43-45; col. 11, lines 51-57). In other words, Uchida is directed to the completely opposite process than the one recited in the claims. Accordingly, one of skill in the art would not combine the teachings of one process with those of a completely opposite process.

Further, the fact that Uchida states that masks can form positive or negative images does not lead one of skill in the art to the conclusion that the materials used in Uchida can be used in the completely opposite process of Cernigliaro. This statement in Uchida is in the background section and is simply describing the general use of masks in lithography. There is no teaching or suggestion that the compositions or materials used in the process taught by Uchida (i.e., removal of the un-exposed material) can be successfully used in the opposite process of Cernigliaro, particularly given Cernigliaro's two-phase system. Therefore, Applicants request withdrawal of this rejection.

New Dependent Claims 43 and 44

Applicants have added new dependent claims 43 and 44. Written description support for these claims can be found, for example, at paragraphs [0029] – [0032]. Based on the foregoing arguments regarding patentability of the corresponding independent claims, Applicants submit that these claims are allowable as well.

Conclusion

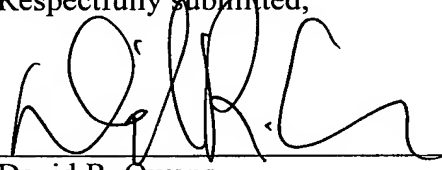
Based on the foregoing, Applicants believe that the application is in condition for allowance and request the same. To the extent there are any remaining issues that may be resolved by telephone, the Examiner is invited to contact the undersigned.

The Commissioner is hereby authorized to charge the requisite fee under 37 C.F.R. § 1.17(i) for the inventorship correction above to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310 (order no. 063702-0143-US). Applicants have separately authorized the Commissioner to charge the required fee for the new claims added by this Amendment to this same deposit account. Other than these fees, the Commissioner is also authorized to charge any additional fees associated with this Amendment or to credit any overpayment to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310 (order no. 063702-0143-US). A copy of this sheet is enclosed for accounting purposes.

Respectfully submitted,

Date: July 11, 2006

By: _____



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